UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,086	07/23/2001	Louis W. Blanco	9000/1	2887

27774 7590 12/16/2004

MAYER, FORTKORT & WILLIAMS, PC
251 NORTH AVENUE WEST
2ND FLOOR
WESTFIELD, NJ 07090

EXAMINER	
JACOBSON, TONY M	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,086	BLANCO ET AL.	
	Examiner	Art Unit	
	Tony M Jacobson	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/3/02, 3/4/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 33, 37, 45, 46, and 48** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. **Claim 33** recites the limitation "the captured audio" in line 5 of the claim. There is insufficient antecedent basis for this limitation in the claim. The independent claim makes no prior mention of captured audio.

4. **Claim 37** recites the limitation "... indicative of an operational status of the VCR" in line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim. The independent claim makes no prior mention of a VCR. It is assumed hereinafter that Applicant intended to recite "operational status of the recording device", consistent with the preamble of the claim.

5. **Claims 45 and 46** recite the limitation "the emergency system of the vehicle" in lines 2-3 of each of these claims. There is insufficient antecedent basis for this limitation in the claims. None of claims 41, 45, and 46 makes any prior mention of an emergency system of the vehicle.

6. **Claim 48** recites the limitation "the docking device" in line 8 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is assumed in the prior-art rejection of this claim below that Applicant intended to recite "the base station", consistent with line 6 of the claim.

7. **Claim 48** is rejected under 35 U.S.C. 112, second paragraph, because the claimed invention is directed to two classes of statutory subject matter. The claim attempts to embrace both an apparatus or machine and a process. This is precluded by the language of 35 U.S.C. 101, which sets forth the statutory classes of invention in the alternative only. While a single patent may include claims directed to more than one statutory class of invention, no basis exists for permitting a combination of two separate and distinct classes of invention in a single claim. The claiming of two statutory classes of invention in a single claim is ambiguous and renders the claim indefinite in view of 35 U.S.C. 101. While **claim 48** is presented as a method claim, it also attempts to include structural limitations within the body, e.g.: "powering on a wireless microphone to enable the wireless microphone to accept a security code, the wireless microphone having a synchronization connector". See Ex parte Lyell 17 USPQ2d 1548.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. **Claim 48** is rejected under 35 U.S.C. 101 because the claimed invention is directed to two classes of statutory subject matter. The claim attempts to embrace both an apparatus or machine and a process. This is precluded by the language of 35 U.S.C. 101, which sets forth the statutory classes of invention in the alternative only. While a single patent may include claims directed to more than one statutory class of invention, no basis exists for permitting a combination of two separate and distinct classes of invention in a single claim. See Ex parte Lyell 17 USPQ2d 1548.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 26, 27, 41, 42, and 45** are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson (US 4,949,186).

12. Regarding **claims 26 and 27**, Peterson discloses a method of operating a wireless microphone (18) used with an in-car video system (10) including a car-mounted camera (12) and recording device (16), the method comprising the steps of: in response to a received RF activation signal (the operation of a power switch by a user, to activate RF transmission [an "RF activation signal", as broadly as claimed], as described at column 2, lines 62-63), capturing audio with the wireless microphone; and transmitting the captured audio to the recording device to provide a recordable audio soundtrack corresponding to an image captured by the car-mounted camera (according to the general disclosure of Peterson). Accordingly, an "RF deactivation signal" (such as the operation of a power switch by a user) is inherently necessary to deactivate the RF transmission by the wireless microphone.

13. Regarding **claim 41**, Peterson discloses in Fig. 1 a vehicle-mounted surveillance system (10) including a wireless microphone (18), recording device (16), and camera (12), which in normal operation is operated by a method comprising the steps of: operating the recording device and the camera to make a video record (as generally disclosed); and sending an RF control signal to the wireless microphone to activate the wireless microphone (column 2, lines 62-63) to thereby make a simultaneous audio record with the video record (column 3, lines 53-54). The operation of a power switch by a user (or other means), to control (turn on or off) RF transmission by a wireless microphone as disclosed at column 2, lines 62-63 constitutes "sending an RF control signal" (sending a signal to control RF), as broadly as claimed.

14. Regarding **claim 42**, because the camera (12) will inherently be visible when in use in the vehicle as shown in Fig. 1, a status parameter of the vehicle-mounted surveillance system (the status parameter being presence of the camera) is visually displayed in normal use, as broadly as claimed. (Also, claim 12 of Peterson explicitly recites a step of "visually displaying status parameters of the camera and video recorder".)

15. Regarding **claim 45**, Peterson discloses at column 2, lines 49-52 that the vehicle-mounted surveillance system is automatically activated upon activation of [an] emergency system of the vehicle.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. **Claims 1-7, 16, 20, 22-27, 30, 33, 34, 37, 40-43, and 47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A).

18. Regarding **claim 1**, Cohodar discloses a microphone arrangement (comprising 46' and 48 of Figs. 2, 3, 6, and 8) for use with a vehicle-mounted surveillance system including a recording device (vehicle-mounted video camcorder 12 of Fig. 1), comprising: a microphone (46') for capturing audio; a switchable RF transmitter (column 2, lines 11-19 – "activating" implies "switching" of some sort) coupled to receive the captured audio from the microphone and arranged to transmit the captured audio as an RF (remote function?) data signal when switched into a transmitter mode of operation (any mode of operation of a transmitter, including a standby mode in which the transmitter is not actually transmitting, constitutes a "transmitter" mode of operation, since it is a mode of the transmitter); and, inherently, a switch (a means for "activating" the transmitter, as described at column 2, lines 14-19) for switching the transmitter into

the transmitter mode (e.g., a transmitting "transmitter mode"). Cohodar does not disclose an RF receiver coupled to the switch and arranged to receive the RF activation signal from the vehicle-mounted surveillance system. Endo discloses in Drawing 1 a remotely-activated microphone arrangement (2) for use with a camcorder (a "camera one apparatus video recorder", according the JPO machine translation of this reference [i.e., a camera/video recorder combined in a single apparatus]), of the type used in the vehicle-mounted surveillance system of Cohodar, comprising: a microphone (16) for capturing audio; a switchable RF transmitter (18) coupled to receive the captured audio from the microphone and arranged to transmit the captured audio as an RF data signal when switched into a transmitter mode of operation (any mode of a transmitter is a "transmitter" mode of operation); a switch (46) for switching the RF transmitter into the transmitter mode in response to a received RF activation signal; and an RF receiver (36) coupled to the switch and arranged to receive the RF activation signal from the camcorder (paragraph [0022]). Thus, the system of Endo would anticipates claim 1, except that the RF receiver (36) is not disclosed as receiving the RF activation signal from a vehicle-mounted surveillance system. As best understood, according to the JPO machine translation, Endo discloses at paragraphs [0021]-[0028] that the microphone arrangement of the invention improves the "user-friendliness" of the apparatus by automatically activating the wireless microphone transmitter when the camcorder is activated to record, and prevents unnecessary drain on the battery (48) of the wireless microphone transmitter by automatically deactivating the wireless microphone transmitter when the camcorder ceases recording. It would have been obvious to one

of ordinary skill in the art at the time the present invention was made to employ the camcorder and wireless microphone apparatus of Endo in the vehicle mounted surveillance system of Cohodar (or to modify the transmitter and camcorder of Cohodar according to the teachings of Endo) in order to provide simplified operation of the system (improved user-friendliness) and to prevent unnecessary drain on the battery of the transmitter when recording is not in progress. In the system of Cohodar, modified as described above, the RF receiver (36) of the wireless microphone is arranged to receive the RF activation signal from the vehicle-mounted surveillance system (because the camcorder body (3) is now a part of that system).

19. Regarding **claim 23**, the combination of Cohodar and Endo described above regarding claim 1 comprises: a wireless microphone for transmitting captured audio in an RF data signal; and a controller (44 of Endo) for activating the wireless microphone in response to a received RF activation signal that is transmitted from the vehicle-mounted video surveillance system when the recording device is recording.

20. Regarding **claim 26**, in normal operation, the wireless microphone used with the in-car video system (including a car-mounted camera and recording device) resulting from the combination of Cohodar and Endo, as described above regarding claim 1, is inherently operated according to a method comprising the steps of: in response to a received RF activation signal, capturing audio with the wireless microphone; and transmitting the captured audio to the recording device to provide a recordable audio

soundtrack corresponding to an image captured by the car-mounted camera.

21. Regarding **claim 33**, the in-car video system formed by the combination of Cohodar and Endo as described above regarding claim 1 comprises: a camera (12 of Cohodar, 3 of Endo) mounted in the car for capturing a video image; a recording device (8 of Endo, see column 1, lines 63-66 of Cohodar) mounted in the car and operably coupled to the camera to receive a signal representative of the captured video and arranged to receive a signal representative of captured audio for recording the captured video image and captured audio (according to both general disclosures); and a controller (42 or 44 of Endo) for remotely switching a bi-directional wireless microphone into audio capture mode by using an RF activation signal that is transmitted to the bi-directional wireless microphone when the recording device is operated in recording mode.

22. Regarding **claims 34 and 37**, the vehicle-mounted video surveillance system (including a recording device, a vehicle-mounted base station for use with a wireless microphone, the wireless microphone being operational-mode switchable in response to an RF activation signal) formed by the combination of Cohodar and Endo as described above regarding claim 1 comprises: an input (the input of block 42 from switch 40 of Endo) coupled to receive an operational status signal from the video surveillance system indicative of an operational status of the recording device; a controller (42) coupled to the input to receive the operational status signal an for generating an RF

activation signal when the operational status signal indicates that the recording device is in recording mode; and an RF transmitter (34) arranged for transmitting the RF activation signal to the wireless microphone to switch the wireless microphone into a transmit mode from a standby mode. (See paragraphs [0021]-[0023] of Endo.) Accordingly, the inherent method of operating the system comprises: receiving an operational status signal from the video surveillance system indicative of an operational status of the [recording device]; generating an RF activation signal when the operational status signal indicates that the recording device is in recording mode; and transmitting the RF activation signal to the bi-directional wireless microphone to switch the wireless microphone into an audio transmission mode.

23. Regarding **claim 40**, the bi-directional wireless microphone for use with the vehicle video surveillance system resulting from the combination of Cohodar and Endo as described above regarding claim 1 comprises: a body-wearable wireless RF transceiver (2 of Endo, constructed and used according to Figs.2, 3, and 6 of Cohodar, as was common in the art) including a microphone (46' of Cohodar, 16 of Endo) for capturing audio, the transceiver arranged to transmit an RF data signal including the captured audio and to receive an RF activation signal (according to the general disclosure of Endo); and a base unit (12 of Cohodar, 3 of Endo) mountable in the vehicle and arranged to receive the RF data signal from the transceiver and to send the RF activation signal to the transceiver (according to the general disclosure of Endo).

24. Regarding **claim 41**, the normal method of operating the vehicle-mounted surveillance system (including a wireless microphone, recording device, and camera) formed by the combination of Cohodar and Endo as described above regarding claim 1 inherently comprises: operating the recording device and the camera to make a video record; and sending an RF control signal to the wireless microphone to activate the wireless microphone to thereby make a simultaneous audio record with the video record.

25. Regarding **claim 2**, Cohodar discloses in Figs. 2, 3, and 6 that the circuitry of the wireless microphone is disposes in a body-wearable housing (48). Endo does not disclose a physical arrangement of the wireless microphone; however, one of ordinary skill in the art would reasonably conclude that the wireless microphone (2) is also "body-wearable" (e.g., by being placed in a pocket, a backpack, or similar carrying means). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to construct the wireless microphone in the combined system generally according to Figs. 2 and 3 of Cohodar (as a "belt-pack" unit) as was common in the art at that time.

26. Regarding **claims 3 and 4**, as described above regarding claim 2, it would have been obvious to construct the wireless microphone transmitter as a "belt-pack" unit as taught by Cohodar. Such a unit is inherently disposed in a housing that is arranged to be (is capable of being) removably inserted into a hypothetical close-fitting holster. (A

holster is not claimed.) Such a housing is also arranged to be (is capable of being) removably inserted into a hypothetical holster that includes a clip for removably attaching the holster to an article of clothing, such as a belt.

27. Regarding **claim 5**, in the microphone arrangement of the combination of Cohodar and Endo described above regarding claim 1, the RF activation signal is indicative that the recording device is in a recording mode of operation, as generally disclosed by Endo.

28. Regarding **claims 6, 30, 42, and 43**, while neither Cohodar nor Endo explicitly discloses a visual display for indicating that the recording device is in the recording mode of operation or displaying a visual indication of another state of operation of the recording device, Official notice is taken that it was notoriously well known in the art at the time the present invention was made to provide a camcorder of the type disclosed by Cohodar and Endo with an indicator, such as a light emitting diode (LED) (a visual display, as broadly as claimed), typically located at the front of the camcorder that is illuminated when the camcorder is recording. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include such a visual display in the camcorder of the system, according to common practice in the art.

29. Regarding **claim 7**, Cohodar discloses at column 1, line 63 –column 2, line 6 that the recording device is a video cassette recorder (VCR), that may be formed as part of

the camera itself (i.e., a camcorder) or as a separate unit. Endo (as machine translated) describes the recording device as a "video tape recorder", which is typically inferred to refer to a video cassette recorder, and element 8 of Drawing 1 further suggests such an interpretation. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to utilize a tape recorder or a video cassette recorder as taught by these references, thus having a recording device that is selected from the group consisting of tape recorders, video cassette recorders, hard-disk drives, or optical drives.

30. Regarding **claim 16**, while Cohodar does not specifically disclose that a battery is disposed within the housing of the wireless microphone transmitter (48) of Figs. 2 and 3, such a battery arrangement is well known in the art and inherently necessary to the operation of the transmitter. Further, Endo discloses a battery (48) as part of the wireless microphone transmitter unit (2), but does not pictorially disclose a physical arrangement of the transmitter unit. It would have been obvious to one of ordinary skill in the art to include a battery in the housing of the wireless microphone of Cohodar, modified according to the teachings of Endo, according to common practice in the art.

31. Regarding **claim 20**, in the bi-directional wireless microphone of Endo as machine translated, paragraph [0022] indicates that a control circuit (44, a "controller") caries out on-off control of the switching circuit (46) in response to a received RF activation signal to supply power from a battery (48) to sending circuit (18, "RF

transmitter"). Although Endo discloses the controller (44) and the switch (46) as separate elements, they clearly cooperate to perform a unified function: switching on power from battery (48) to transmitter (18) in response to a received activation signal – no other function is disclosed for controller (44) and no other element is disclosed as controlling the operation of switch 46. Thus, since these two elements cooperate to control the flow of power from the battery to the transmitter, they together constitute a controller in which the switch is incorporated, as broadly as disclosed and claimed.

32. Regarding **claim 22**, Fig. 2 of Cohodar shows a microphone (46') that is external to the main body (48) of the wireless microphone portable unit. There inherently exists an interface between the external microphone and the main body in order to conduct the audio signal of the microphone to the transmitter circuitry. Also, in the portable wireless microphone transceiver (2) of Endo, the microphone (16) is external to the sending circuit (18) and there inherently exists an interface between the external (with respect to sending unit 18) microphone (16) and the sending unit (18). Additionally, element 3A of the camcorder/transceiver (3) of Endo is an interface for an external (with respect to camcorder/transceiver 3) microphone (2), as described at paragraph [0014]. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include any of these "external" microphone arrangements and corresponding "interfaces" in a system combining the teachings of these two references as described above regarding claim 1.

33. Regarding **claim 24**, Official notice is taken that at the time the present invention was made, it was notoriously well known in the electronics manufacturing and marketing arts to dispose electronic circuitry in a housing and to provide one or more labels, insignia, or similar markings on the exterior of an electronic product; such a visual marking constitutes a visual display ("type, composition, or printing designed to catch the eye"), as broadly as claimed. Additionally, the wearing of the belt-pack wireless microphone transmitter housing (48) of Cohodar, as shown in Fig. 6, constitutes a visual display ("a setting or presentation of something in open view"), as broadly as claimed. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include either of these types of "visual displays" in a wireless microphone system constructed according to the combined teachings of Cohodar and Endo, as described above with regard to claim 23 according to common practice in the art. (Definitions quoted above taken from Merriam-Webster's Collegiate Dictionary, Tenth Edition.)

34. Regarding **claim 25**, Figs. 2 and 3 of Cohodar show the wireless microphone disposed in a generally thin rectangular housing, consistent with the well-known "belt-pack" transmitter construction. Such a unit is inherently disposed in a housing that is arranged to be (capable of being) removably inserted into a hypothetical close-fitting holster having a means for removably attaching the holster to a user. (A holster is not claimed.)

35. Regarding **claims 27 and 47**, Endo discloses at paragraphs [0021]- [0028] that (paraphrasing) on-off control of the sending circuit (transmitter) in the wireless microphone follows the recording operation of the main camera body, and when image transcription (recording) handler (switch 40) is actuated to halt recording (the vehicle-mounted system of Cohodar, modified according to the teachings of Endo is deactivated), the switching circuit (46) will be switched to an OFF state, thus causing RF transmission of the wireless microphone unit (2) to cease. This inherently requires the wireless microphone unit (2) receiving an "RF deactivation signal" (which may simply consist of the cessation of transmission of an RF activation signal, but would nonetheless constitute an "RF deactivation signal" as broadly as claimed) and deactivating the wireless microphone in response thereto.

36. **Claims 8, 9, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A) as applied to claims 1 and 20 above, and further in view of Reference U ('Spread Spectrum Technology and Wireless Microphone Systems').

37. Regarding **claim 8**, Reference U discloses generally the use of spread-spectrum techniques for transmission of wireless microphone signals. Reference U discloses a number of advantages of spread spectrum techniques (especially for voice-quality signals), such as providing secure communications (page 2, paragraph 2), unlicensed operation in 900-MHz and 2400-MHz bands (page 2, paragraph 4), and reduced

likelihood of extreme interference – especially in bi-directional systems using digital audio (page 3, paragraphs 7 and 9). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to employ digital spread-spectrum transmission techniques in the transmitters and corresponding receivers of the microphone arrangement of Cohodar as modified by Endo in order to provide a secure transmission of audio, to provide good interference immunity, and to avoid the need for a special license to operate the system.

38. Regarding **claim 9**, Reference U discloses at page 4, paragraph 3 that there are two basic types of spread-spectrum transmission: frequency hopping and direct sequence. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to select a digital spread spectrum transmission technique from the group consisting of these two basic types.

39. Regarding **claim 21**, as described above regarding claim 8, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to employ digital spread-spectrum transmission techniques in the transmitters and corresponding receivers of the microphone arrangement of Cohodar as modified by Endo in order to exploit any of the potential benefits of spread spectrum transmission techniques in a wireless microphone system disclosed by Reference U. Reference U further discloses several benefits of employing digital audio in a spread spectrum transmission system; for instance, at the last paragraph of page 3: "Two-way (bi-

directional or full duplex) systems using digital audio can add error correction and detection codes to the data, allowing correction of minor errors or retransmission of unusable samples" and at page 6, paragraph 2: For program quality audio, the gap in the received signal created by frequency hopping essentially dictates digital transmission of audio." Transmission of digital audio inherently requires the inclusion of an audio codec (analog-to-digital converter) in the transmitter unit of the wireless microphone to convert an analog audio signal from a microphone element to an equivalent digital sample sequence, as is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to utilize digital audio and spread spectrum transmission techniques as taught by Reference U in the wireless microphone system of Cohodar, modified according to the teachings of Endo, as described above regarding claim 20, in order to exploit the benefits and/or meet the requirements quoted above from Reference U. It would have further been obvious to one of ordinary skill in the art to describe the audio codec as being included in a "controller", as the word "controller" is generally extremely broad in scope (potentially including any functional elements that control something such as a voltage, a current, a signal amplitude, a signal format, etc.) and Applicant has not provided any limiting definition of what exactly constitutes a controller.

40. **Claims 10, 12-14, 17, 18, 28, 32, and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A) as applied to claims 1, 3, 26, and 37 above, and further in view of Roberts et al. (US 4,873,711).

41. Regarding **claims 10, 12-14, 17, 18, 28, 32, and 39**, neither Cohodar nor Endo explicitly disclose the specific limitations of these claims; Roberts et al. discloses a wireless microphone for use in conjunction with a primary two-way radio system of a vehicle, such as a police vehicle, in which a portable unit (10 of Figs. 2, 3, 5, and 8) functions either as a one-way wireless microphone or as a two-way transceiver (column 2, lines 8-15), communicating by radio-frequency transmission with the mobile radio system of the vehicle. Roberts et al. discloses at column 2, lines 16-31 that the portable unit (10) includes a rechargeable NiCad battery disposed within the housing (**claim 17** – see column 12, lines 44-49) and the secondary mobile unit (51, a "base unit" with respect to portable unit 10) comprises a battery charging circuit including an interface for operably coupling the battery to an external battery charger (**claim 18** – see 1731 of Fig. 4; 27 of Fig. 6; 31 of Fig. 7; and column 5, lines 11-22) that functions to recharge the battery of the portable unit when the portable unit is connected ("docked") thereto, and also incorporates a data interface that utilizes the battery charging connector (27 of Fig. 6 and 31 of Fig. 7) for synchronizing the portable unit (10) with the secondary mobile unit (51, and a controller thereof, 1701 of Fig. 4, external to the portable unit) to

exchange a security code for transmitting the RF data as a secure signal (**claim 10** – see column 15, lines 1-8 and 40-51, performing the method step of **claim 32**). Roberts et al. further discloses at column 15, lines 16-29 that the wireless microphone arrangement also includes an audible alert generator that is arranged to generate an alert to indicate the successful exchange of a security code between the wireless microphone arrangement and an external controller (**claims 12, 13, and 39**) and an audible alert generator arranged to generate an alert to indicate that the portable unit has moved out of radio contact range with the vehicle-mounted radio system (**claims 12, 14, and 28** – see column 2, lines 34-44 and column 16, line 21 –column 17, line 35). One of ordinary skill in the art at the time the present invention was made would have recognized that the security code setting arrangement, rechargeable battery and recharging arrangement, and audible alert arrangement taught by Roberts et al. could be advantageously incorporated into the wireless microphones of either Cohodar or Endo. It would have been obvious to one of ordinary skill in the art to include these desirable features and steps of the wireless microphone/transceiver system and method of Roberts et al. into the bi-directional wireless microphone for use with the vehicle video surveillance system and corresponding method of normal operation of the system resulting from the combination of Cohodar and Endo as described above regarding claims 1 and 3 in order to provide an economical and easily renewable portable power source, secure transmission, increased ease of operation, and reliability as taught by Roberts et al.

42. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A) and Roberts et al. (US 4,873,711) as applied to claim 10 above, and further in view of Reference U ('Spread Spectrum Technology and Wireless Microphone Systems') and Tanaka et al. (US 5,764,685).

43. Regarding **claim 11**, as described above regarding claim 10, Roberts et al. teaches a wireless microphone for vehicular use having a connector for synchronizing with an external controller to exchange a security code for transmitting the RF data signal as a secure signal. Roberts et al. does not disclose that the security code is a spreading code. As indicated above, regarding claims 8 and 9, Reference U discloses the use of spread-spectrum transmission techniques (either frequency-hopping or direct-sequence) in wireless microphone systems. Reference U discloses at page 2, paragraph 2 that spread spectrum transmission techniques were originally developed to improve the security of sensitive radio communications (one of ordinary skill in the art would recognize this is due to the use of a pseudo-random spreading code), but does not disclose a specific method of setting a spreading code in a wireless microphone. Tanaka et al. discloses in Fig. 2 a bi-directional communication apparatus comprising a (stationary) master unit (10) and a (moveable) subordinate unit (50) utilizing spread spectrum transmission techniques and employing a spreading code as a security code, in which a randomly selected spreading code is exchanged between the subordinate unit and the master unit through a battery charging connection (as with the security

code exchange in the wireless microphone of Roberts et al.) each time the subordinate unit is placed in a battery charging carrier of the master unit (column 2, lines 39-59; column 3, lines 56-63). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to apply the teachings of Reference U and Tanaka et al. to the wireless microphone arrangement of Cohodar, modified according to the teachings of Endo and Roberts et al. as described above regarding claim 10, by employing spread spectrum transmission techniques and exchanging a random spreading code between a wireless microphone transmitter and an external controller in order to provide improved transmission security.

44. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A) and Roberts et al. (US 4,873,711) as applied to claim 12 above, and further in view of Grad (US 5,794,125).

45. Regarding **claim 15**, as indicated above regarding claim 12, Roberts et al. teaches an audible alert generator in a wireless microphone system (for indicating a successful exchange of a security code between the wireless microphone and an external controller and for indicating that the wireless microphone has moved out of radio contact range with the vehicle-mounted receiver/transceiver). None of Roberts et al., Cohodar, or Endo teaches an audible alert generator arranged to generate an alert to indicate that a battery operably coupled to the wireless microphone arrangement has dropped below a threshold state of charge. Grad discloses a battery status indication

system and method for a wireless microphone that monitors the charge level of a battery in a wireless microphone transmitter and provides a low battery alert signal when the battery voltage falls below a predetermined threshold (column 1, lines 32-36) in which the alert may be comprise an LED (light emitting diode), an LCD display, other visual or audible indicator, or suitable alarm or warning circuit (column 5, lines 8-30). Grad discloses at column 1, lines 40-44 that the battery level monitoring system permits the user to schedule a battery replacement for a convenient time, and avoid a battery failure from occurring unexpectedly at a critical moment. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to incorporate a suitable battery monitoring circuit (not necessarily constructed as specifically taught by Grad [i.e., altering the frequency of a pilot tone transmitted by a wireless microphone in response to a measured battery voltage], as one of ordinary skill in the art could readily envision equivalent systems utilizing common knowledge in the art without the exercise of any inventive faculty), utilizing an audible indicator (alert) to indicate that a battery of the wireless microphone has dropped below a threshold state of charge in the wireless microphone arrangement of Cohodar, modified according to the teachings of Endo and Roberts et al. as described above regarding claim 12.

46. Claims **19, 29, 31, 35, 36, 38, and 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A) as applied to claims 16, 26, 34, 37, and 42 above, and further in view of Grad (US 5,794,125).

47. Regarding **claims 19, 29, 31, 35, 38, and 44**, neither Cohodar nor Endo teaches an audible alert generator arranged to generate an alert to indicate that a battery operably coupled to the wireless microphone arrangement has dropped below a threshold state of charge. Grad discloses a battery status indication system and method for a wireless microphone that monitors the charge level of a battery in a wireless microphone transmitter and provides a low-battery alert signal when the battery voltage falls below a predetermined threshold (column 1, lines 32-36) in which the alert may be comprise an LED (light emitting diode), an LCD display, other visual or audible indicator, or suitable alarm or warning circuit (column 5, lines 8-30). Grad further discloses at column 1, lines 40-44 that the battery level monitoring system permits the user to schedule a battery replacement for a convenient time, and avoid a battery failure from occurring unexpectedly at a critical moment. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to incorporate a suitable battery monitoring circuit (not necessarily constructed as specifically taught by Grad [i.e., altering the frequency of a pilot tone transmitted by a wireless microphone in response to a measured battery voltage], as one of ordinary skill in the art could readily

envision equivalent systems utilizing common knowledge in the art without the exercise of any inventive faculty), utilizing an audible indicator (alert) to generate an audible alert to indicate that the wireless microphone has a state of battery charge below a threshold (**claim 29**) or an LED or LCD display displaying a visual indication of a state of battery charge of a battery disposed within the wireless microphone (**claims 19, 31, 35, 38, and 44**), as generally taught by Grad, in the wireless microphone arrangement of Cohodar, modified according to the teachings of Endo as described above regarding claims 16, 26, 34, 37, and 42 in order to reduce the likelihood of a battery failing unexpectedly during use.

48. Regarding **claim 36**, as described above in regard to claim 13, the combination of an audible alert generator arranged to generate an alert to indicate the successful exchange of a security code between the wireless microphone arrangement and an external controller as taught by Roberts et al. with the wireless microphone system of Cohodar, modified according to the teachings of Endo, as described above with regard to claim 1 is obvious. Roberts et al. does not disclose a visual indicator for indicating a successful exchange of a security code between the wireless microphone and the vehicle-mounted base station (comprising the external controller). Grad discloses a battery status indication system and method for a wireless microphone system in which an indication is provided when the charge of the battery falls below a threshold. Grad discloses at column 5, lines 27-30 that the indication may be provided as a visual indication (such as an LED or LCD display) or an audible indication or suitable alarm or

warning. This fairly suggests equivalence or interchangeability between visual and audible indications or warnings, particularly for informing an operator of a status in a wireless microphone system. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to employ an indicator (alert) for indicating a state of battery charge of a battery disposed within the wireless microphone of Cohodar, modified according to the teachings of Endo (as described above with regard to claim 34), as taught by Roberts et al. (by the same reasoning as applied to claim 13 rejection, above), and further to substitute a visual indicator for the audible alert taught by Roberts, according to the teachings of Grad, as an obvious design choice.

49. Claims **45 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohodar (US 5,012,335) in view of Endo (JP 06183788 A) as applied to claim 41 above, and further in view of Peterson (US 4,949,186).

50. Regarding **claims 45 and 46**, neither Cohodar nor Endo teaches automatically activating a vehicle-mounted surveillance system or a wireless microphone thereof upon activation of [an] emergency system of the vehicle. Peterson discloses a vehicle-mounted surveillance system, including a wireless microphone, in which the system can be automatically activated when the emergency flashing lights or siren on a police patrol car are in use (actuated) (column 2, lines 49-52). One of ordinary skill in the art at the time the present invention was made would recognize that this feature would be

advantageous in any emergency vehicle surveillance system, as a user is most likely to forget or be unable to conveniently activate such a system during an emergency situation. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to adapt the vehicle-mounted surveillance system of Cohodar, modified according to the teachings of Endo as described above regarding claim 41, according to the teachings of Peterson by adapting the video camcorder with remotely-controlled wireless microphone as taught by Endo to be activated by an emergency system of the vehicle (e.g., by replacing switch 40 of Endo Drawing 1 with a relay or other controlled switch that is interconnected with a control signal of the vehicle emergency system) in order to provide a system that is easier to use and prevents missed recording of emergency events due to an operator forgetting to activate the surveillance system, in which case, the wireless microphone of the system would also be automatically activated, according to the system and method of Endo.

51. Claims **48 and 49** are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (US 4,949,186) in view of Roberts et al. (US 4,873,711).

52. Regarding **claims 48 and 49**, Peterson discloses a vehicle-mounted surveillance system including a wireless microphone. Peterson does not disclose specific details of the microphone or its operation, except that the microphone is carried by a police officer (column 2, lines 61-63), attached to the officer's uniform for recording both in and out of a patrol car to make an audio record simultaneously with a video record (column 3, lines

53-57 and claim 10), and an LED provides a visual display of operational status of the wireless microphone (column 2, lines 62-65 and claim 12). Roberts et al. discloses a wireless microphone for use in conjunction with a primary two-way radio system of a vehicle, such as a police vehicle, in which a portable unit (10 of Figs. 2, 3, 5, and 8) functions either as a one-way wireless microphone or as a two-way transceiver (column 2, lines 8-15), communicating by radio-frequency transmission with the mobile radio system of the vehicle. Roberts et al. discloses at column 2, lines 16-31 that the portable unit (10) includes a rechargeable battery (column 12, lines 44-49) and the secondary mobile unit (51, a "base station" with respect to portable unit 10) comprises a battery charging circuit including an interface for operably coupling the battery to an external battery charger (1731 of Fig. 4; 27 of Fig. 6; 31 of Fig. 7; and column 5, lines 11-22) that functions to recharge the battery of the portable unit when the portable unit is connected ("docked") thereto, and also incorporates a data interface that utilizes the battery charging connector (27 of Fig. 6 and 31 of Fig. 7) for synchronizing the portable unit (10) with the secondary mobile unit ("base station" 51) to exchange a security code to enable secure RF transmission between the wireless microphone and the in-car mobile radio system. One of ordinary skill in the art at the time the present invention was made would have recognized that the rechargeable battery and recharging arrangement and security code setting arrangement taught by Roberts et al. could be advantageously incorporated into the wireless microphone of Peterson. It would have been obvious to one of ordinary skill in the art to include these desirable features of the wireless microphone/transceiver system and method of Roberts et al. into wireless microphone

of the in-car video system of Peterson order to provide an economical and easily renewable portable power source, secure transmission, increased ease of operation, and reliability as taught by Roberts et al. In normal operation, the inherent method of operating such a system comprises: powering on a wireless microphone to enable the wireless microphone to accept a security code, the wireless microphone having a synchronization connector; placing the wireless microphone in a base station having a connector to operably engage with the synchronization connector; exchanging a security code between the [base station] and wireless microphone to enable secure RF transmission between the wireless microphone and the in-car video system; and removing the wireless microphone from the docking device and placing the microphone in ready mode.

Conclusion

53. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

54. Lucas (US 5,111,289) discloses a vehicle-mounted video system including a wireless microphone.

55. Carter (US 5,491,464) discloses a remote-controlled radar gun and video recording appataus for use with a police vehicle.

56. Tam (US 5,568,510) discloses an apparatus and method for obtaining synchronism between a base station and a portable unit arranged for operation in a frequency hopping RF communication system.

57. Peterson (US 6,262,764) discloses a vehicle surveillance system with a portable device providing remote and video and audio transmission to a vehicle-mounted recording system.

58. Sharp et al. (US 6,587,152) discloses a camcorder mounting and control system for a mobile video surveillance system.

59. Vojtech et al. (US 2004/0075547) discloses a remotely activated video/audio surveillance system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony M Jacobson whose telephone number is 703-305-5532. The examiner can normally be reached on M-F 11:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmj
December 2, 2004

XU MEI
PRIMARY EXAMINER